

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : Unknown
Applicant : Werner TESCHNER et al
Filed : Unknown
TC/A.U. : Unknown
Examiner : Unknown

Docket No. : R.303058
Customer No. : 02119

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Date: Unknown

**INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97(b),
AND EXPLANATION OF THE RELEVANCE OF THE CITED PRIOR ART**

Sir:

The undersigned hereby requests that the prior art cited on the attached prior art statement be placed of record in the application file and be considered by the examiner.

This citation of prior art is made under 37 CFR 1.97(b), since it is being filed within three months of the filing date and before the mailing of a first Office action.

The relevance of the prior art cited on the attached form 1449 is as follows:

Appl. No. Unknown
IDS filed Unknown
Prior to first Office Action

DE 199 31 891 A1

This patent teaches a fuel-injection valve for combustion engines. The valve has a jet needle (1) which runs in a central guide boring of a nozzle body (5) and has an encircling sealing region (27-29) which is provided with a sealing edge (27). The sealing edge forms a valve (27,55) together with the valve-seat (55) of the nozzle body (5) and is opened or closed, depending on the position of the jet needle (1) and controls the supply of fuel to at least one injection aperture (9) in the tip (52) of the jet in the nozzle body (5). The gap between the inner wall of the nozzle body (5) and the jet needle (1) is enlarged by a recess (33,34) which is placed in the body of the nozzle (5) and/or the jet needle (1), and is arranged at a level between the sealing edge (27) and the needle shaft (15) of the jet needle (1).

US 6,565,017 B1

This patent is in the same family as DE 199 31 891 A1 and is provided as an aid to the examiner.

WO 99/49209

This patent teaches a high-pressure piston cylinder unit, for use as an injection pump or an injection valve for an internal combustion engine. A method for production is also disclosed. The high-pressure piston cylinder unit comprises a piston (5) which is guided inside a cylinder bore (3) and which is coupled to an actuating element. Said piston is subjected to a high pressure differential. According to the invention, fine grooves (10) which run very close to one another are configured in at least one part of the guiding surface of the

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piston (5). Said grooves ensure hydraulic pressure compensation on the periphery of the guiding surface, thus reducing wear, and prevent leakage in a longitudinal guiding direction.

US 6,477,940 B1

This patent is in the same family as WO 99/49209 and is provided as an aid to the examiner.

WO 98/14710

This patent teaches a method for designing bearings, of improved performance, the load-bearing surfaces of which feature micropores (20, 22) about 2 to 10 microns deep and, preferably, aspect ratios on the order of 7 to 20. The hydrodynamic pressure distribution of a suite of bearing surfaces with different micropore geometries and densities is modeled numerically. The load-bearing surfaces of the bearings (13) are fabricated with micropores having the optimal density and geometry determined by the numerical modeling. Conical micropores (20, 22) may be created by single laser pulses, with the pore size and shape controlled by controlling the laser beam profile, the laser beam power, and the optical parameters of the focusing system.

WO 02/090760 A1

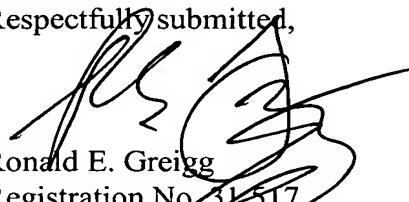
This patent teaches a fuel injection valve for internal combustion engines. The valve comprises a valve member (7) which is guided into a bore hole (5) of a valve body (1) in an axially displaceable manner. The valve member controls the flow of the fuel by means of at least one injection opening. A guiding surface is embodied on the valve member (7), by which means the valve member can be guided into the bore hole (5) in a sliding manner. A

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plurality of recesses are provided in the guiding surface (23) of the valve member (7). The recesses are embodied as lubrication depots (27) and have a diameter of less than 80 μm and a depth of less than 20 μm . This enables friction to be reduced and a smaller guiding gap to be formed between the valve member (7) and the wall of the bore hole (5).

Examination of this application is respectfully requested.

Respectfully submitted,



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INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Docket Number (Optional)

R.303058

Application Number

10/521 180

Applicant(s)

Werner TESCHNER et al

Filing Date

Group Art Unit

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		6,565,017 B1	05-20-2003	Andreas FATH et al			
		6,477,940 B1	11-12-2002	Bernd DANCKERT et al			

U.S. PATENT APPLICATION PUBLICATIONS

*EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
							YES	NO
		DE 199 31 891 A1	01-18-2001	Germany			✓	
		WO 99/49209	09-30-1999	World IPO			✓	
		WO 98/14710	04-09-1998	World IPO			✓	
		WO 02/090760 A1	11-14-2002	World IPO				✓

OTHER DOCUMENTS

(Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP Section 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.